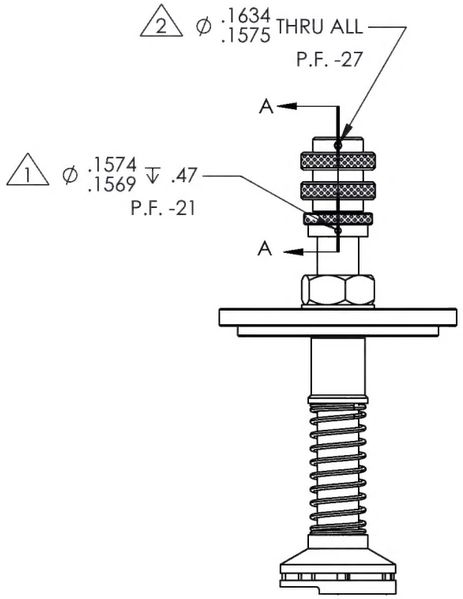
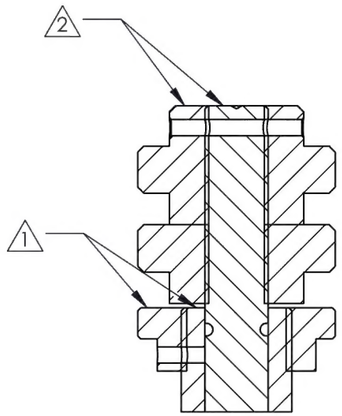
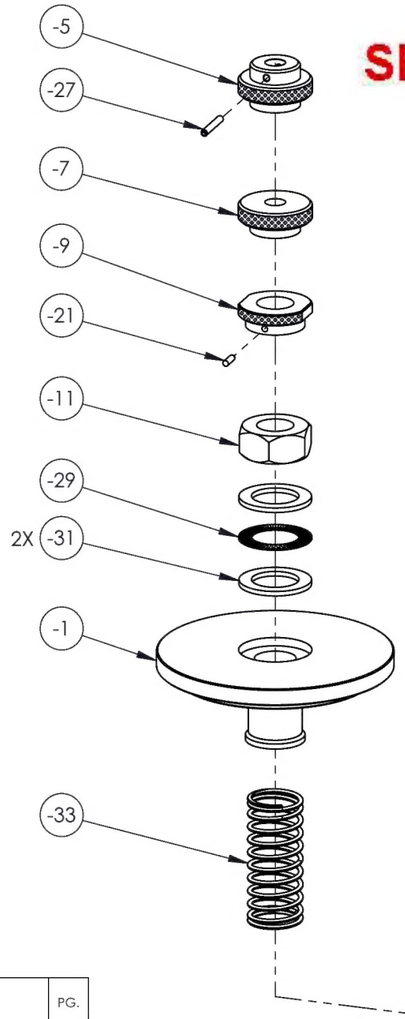
REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		RELEASED FOR PRODUCTION.	2/8/2016	DPD	JAG

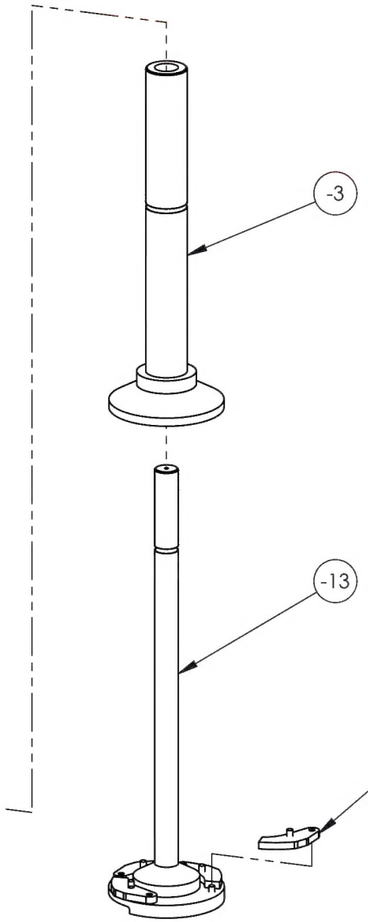
SEE ATTACHED DEVIATION

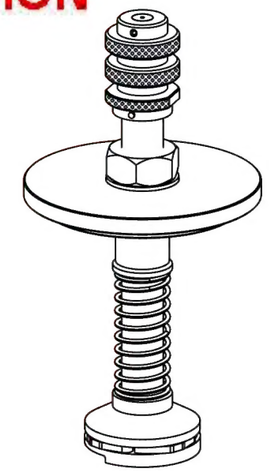




SECTION A-A
SCALE 1 : 1.5







ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
			-1	1	PLATE	6061		2
			-3	1	COVER ROD	4140/4142		3
			-5	1	TALL THUMB NUT	6061		4
			-7	1	SHORT THUMB NUT	6061		5
			-9	1	THUMB NUT WITH FLATS	4140/4142		6
			-11	1	SPECIAL HEX NUT	4140/4142		7
	X		-13	1	BASE ROD ASSEMBLY			8
	1		-15		BASE ROD	4140/4142		9
X			-17	4	SWING OUT ARM ASSEMBLY			10
1			-19		SWING OUT ARM	4140/4142		11
	3	B/O	-21	1	DOWEL PIN	STEEL	M4 X 14mm (MCMASTER-CARR #91595A158)	1, 8
	1	B/O	-23		DOWEL PIN	STEEL	M4 X 8mm (MCMASTER-CARR #91595A150)	8
1		B/O	-25		DOWEL PIN	STEEL	M4 X 10mm (MCMASTER-CARR #91595A152)	10
		B/O	-27	1	SPRING PIN	STEEL	M4 X 32mm (MCMASTER-CARR #91611A215)	1
		B/O	-29	1	THRUST BEARING	STEEL	Ø1-1/4 I.D. X Ø1-15/16 O.D. X 5/64 (MCMASTER-CARR #5909K38)	1
		B/O	-31	2	THRUST WASHER	STEEL	Ø1-1/4 I.D. X Ø1-15/16 O.D. X .126 (MCMASTER-CARR #5909K65)	1
		B/O	-33	1	COMPRESSION SPRING	S.S.	Ø.114 WIRE X Ø1.468 O.D. X 5.13 (CENTURY SPRING #S-970)	1
ASSY -17	ASSY -13							

NOTES:

1. THREAD -9 FLUSH WITH -3 PRIOR TO DRILLING.
2. THREAD -5 FLUSH WITH -13 PRIOR TO DRILLING.
3. REF. EUROCOPTER T/N: 105-14101W1.

DART AEROSPACE

TITLE: PULLER

DWG NO.: RBE105-14101W1 | REV: 1

MAT'L	
HEAT TREAT	
FINISH	
SPEC	
DRAWN BY:	DUERFELDT
CHECKED:	MACKOVJAK
OPPS APPR:	ANDERSON
QA APPR:	LINDSAY
APPROVED:	GILBERT
SCALE	1:4
DATE	12/30/2015

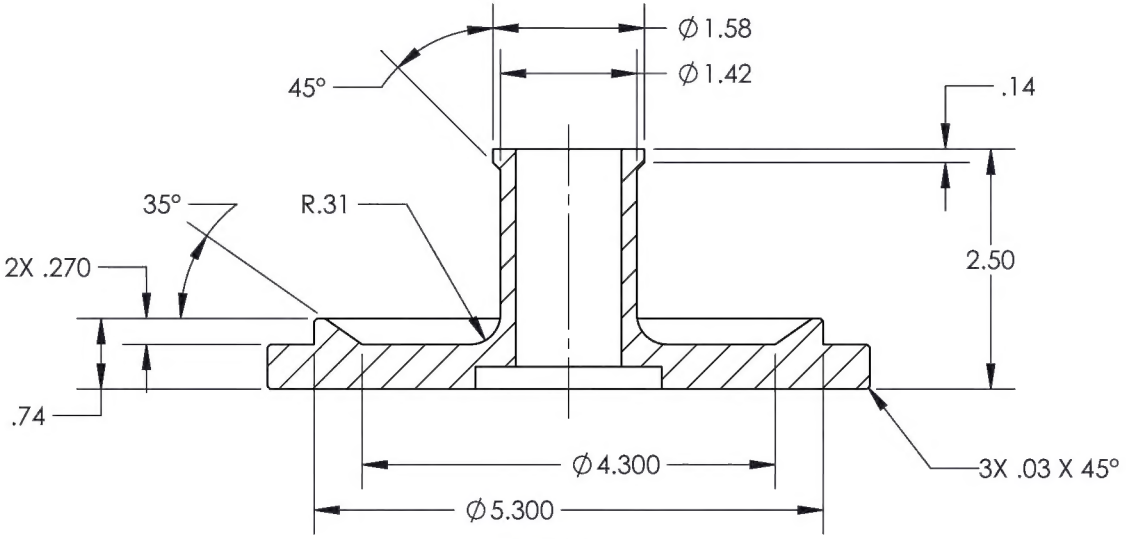
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
.XXX ± .005 FRACTIONS ± 1/8
.XX ± .01 ANGLES ±.5°
.X ± .1 SURFACES = 125

1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

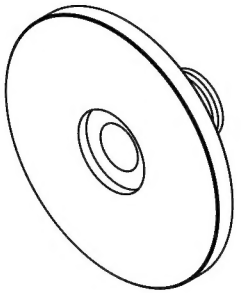
USED ON MODEL: EC145

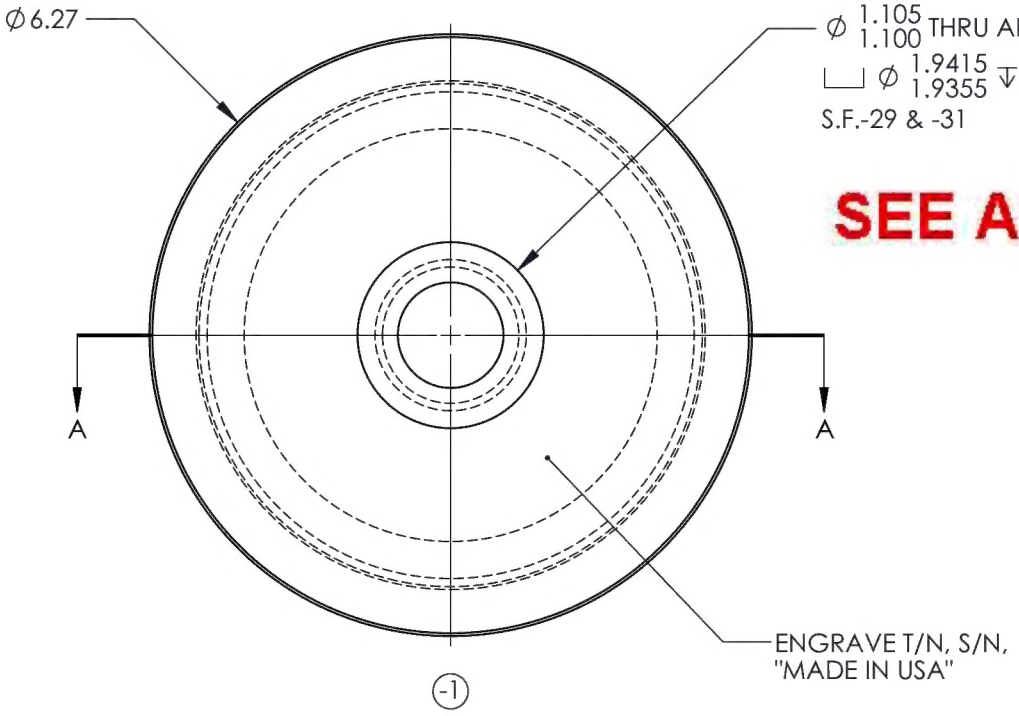
SHEET 1 OF 11

REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED



SECTION A-A





PLATE

SEE ATTACHED DEVIATION

DART AEROSPACE

TITLE	EXTRACTOR
DWG NO.	RBE105-14101W1-1
REV	1
MAT'L	6061
HEAT TREAT	
FINISH	CLEAR ANODIZE
SPEC	MIL-A-8625, TYPE II, CLASS I
DRAWN BY:	DUERFELDT
CHECKED:	MACKOVJAK
OPPS APPR:	ANDERSON
QA APPR:	LINDSAY
APPROVED:	GILBERT
SCALE	1:2
DATE	12/30/2015
SHEET	2 OF 11

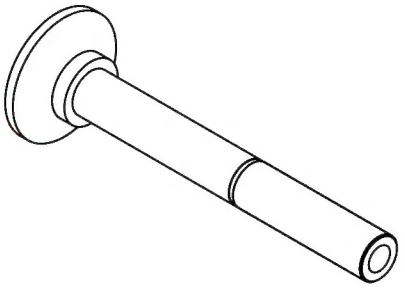
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .005 FRACTIONS ± 1/8
.XX ± .01 ANGLES ±.5°
.X ± .1 SURFACES = 125

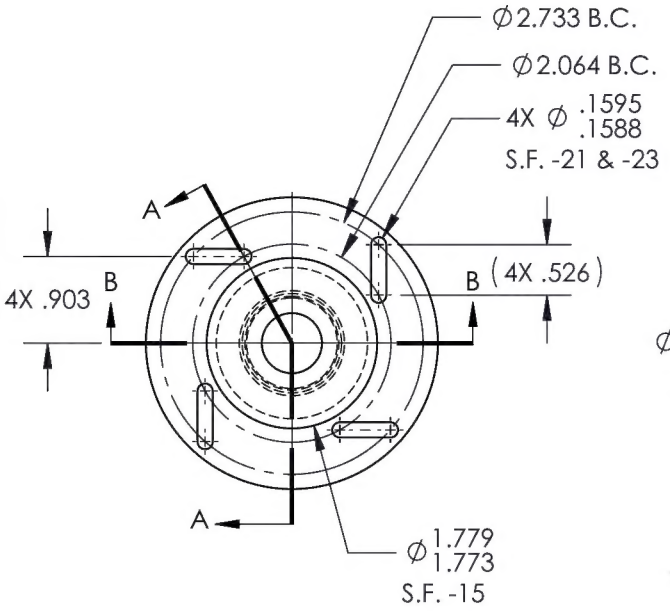
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

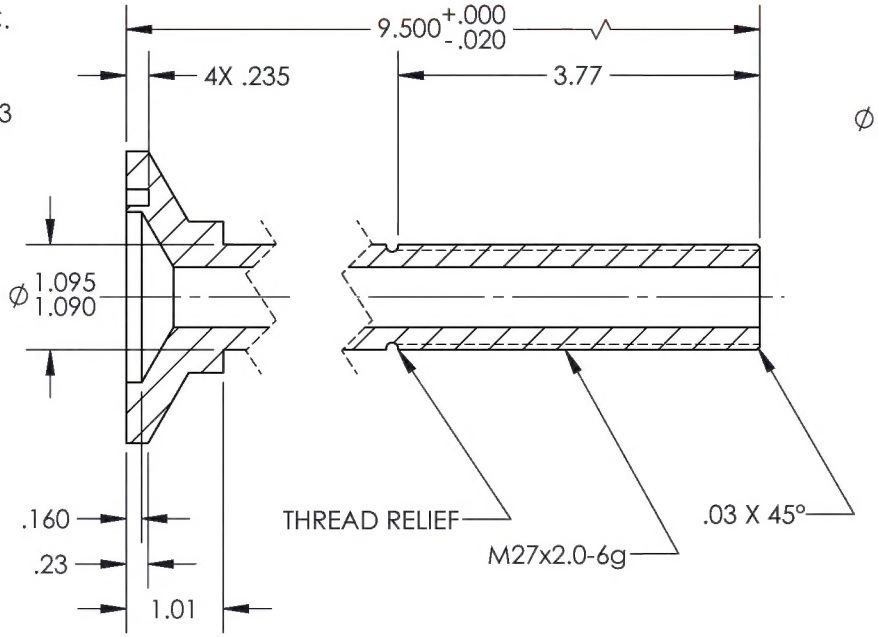
USED ON MODEL
EC145

REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED

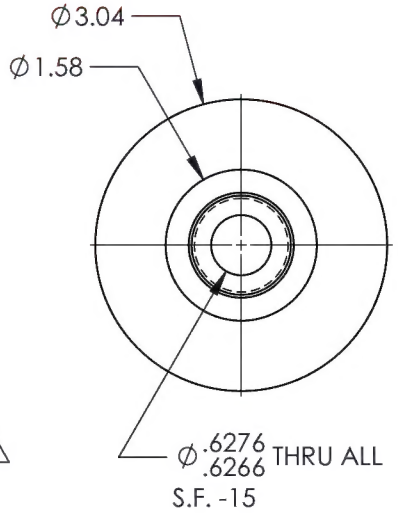
SEE ATTACHED DEVIATION







SECTION A-A



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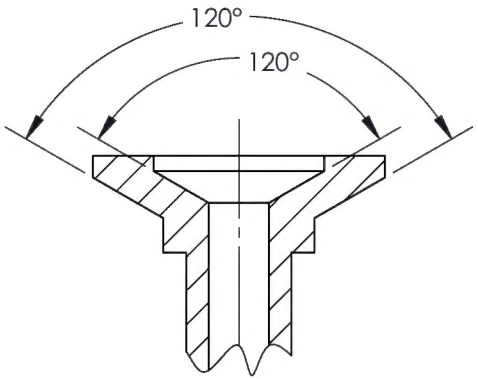


SECTION B-B

-3

COVER ROD

DART AEROSPACE

TITLE	EXTRACTOR
DWG NO.	RBE105-14101W1-3
REV	1
MAT'L	4140/4142
HEAT TREAT	RC 35-40
FINISH	ZINC PLATE
SPEC	ASTM B633 TYPE I SC 2
DRAWN BY:	DUERFELDT
CHECKED:	MACKOVJAK
OPPS APPR:	ANDERSON
QA APPR:	LINDSAY
APPROVED:	GILBERT
SCALE	1:2
DATE	12/30/2015
SHEET	3 OF 11

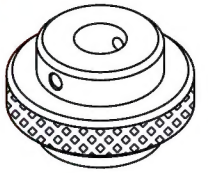
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .005 FRACTIONS ± 1/8
.XX ± .01 ANGLES ±.5°
.X ± .1 SURFACES = 125

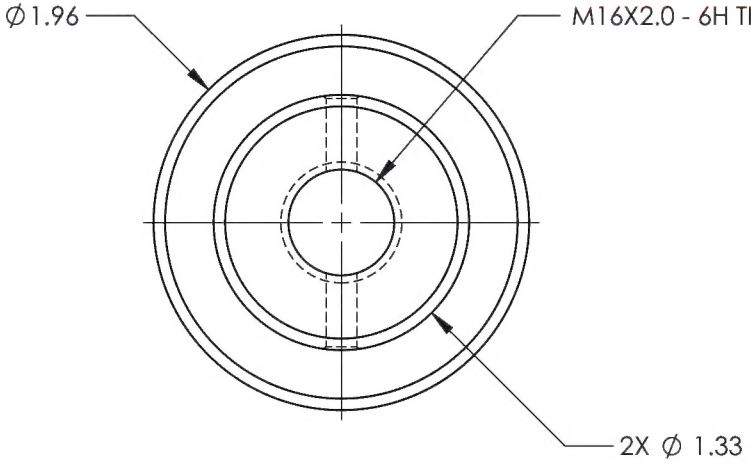
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

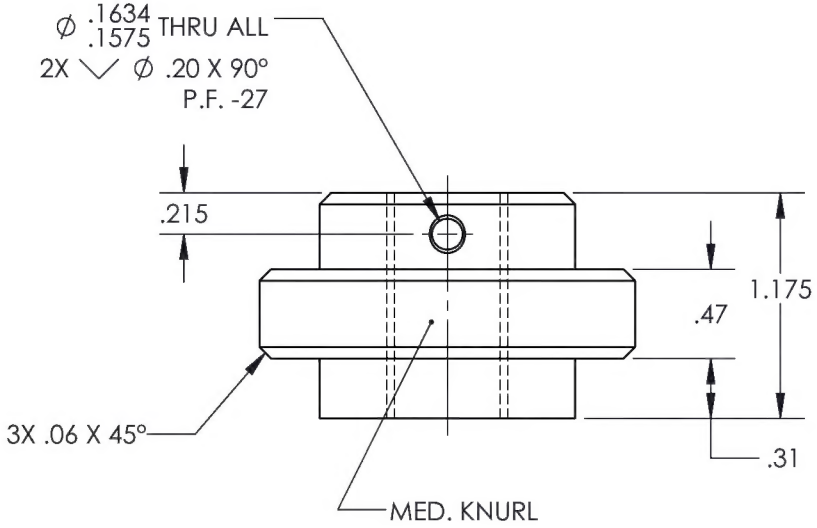
USED ON MODEL
EC145

REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED

SEE ATTACHED DEVIATION







-5

TALL THUMB NUT

DART AEROSPACE

TITLE	EXTRACTOR
DWG NO.	RBE105-14101W1-5
REV	1
MAT'L	6061
HEAT TREAT	
FINISH	CLEAR ANODIZE
SPEC	MIL-A-8625, TYPE II, CLASS I
DRAWN BY:	DUERFELDT
CHECKED:	MACKOVJAK
OPPS APPR:	ANDERSON
QA APPR:	LINDSAY
APPROVED:	GILBERT
SCALE	1:1
DATE	12/30/2015
SHEET	4 OF 11

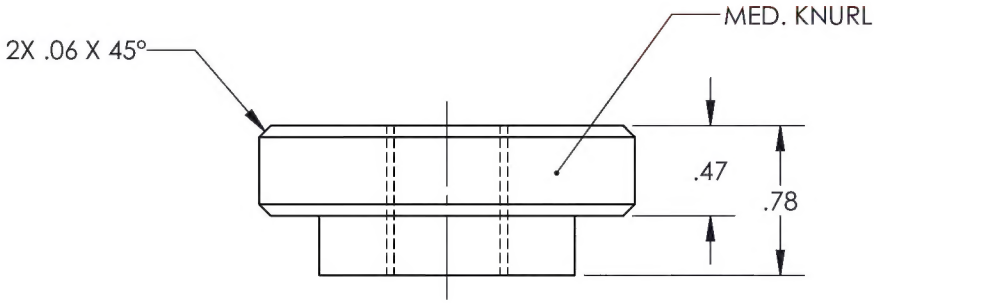
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .005 FRACTIONS ± 1/8
.XX ± .01 ANGLES ±.5°
.X ± .1 SURFACES = 125

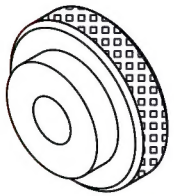
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

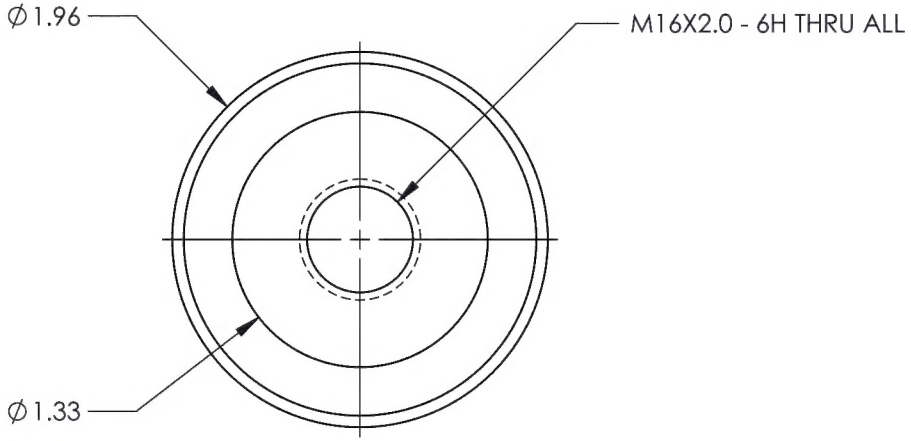
USED ON MODEL
EC145

REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED

SEE ATTACHED DEVIATION







-7

SHORT THUMB NUT

DART AEROSPACE

TITLE	PULLER
DWG NO.	RBE105-14101W1-7
REV	1
MAT'L	6061
HEAT TREAT	
FINISH	CLEAR ANODIZE
SPEC	MIL-A-8625, TYPE II, CLASS I
DRAWN BY:	DUERFELDT
CHECKED:	MACKOVJAK
OPPS APPR:	ANDERSON
QA APPR:	LINDSAY
APPROVED:	GILBERT
SCALE	1:1
DATE	12/30/2015
SHEET	5 OF 11

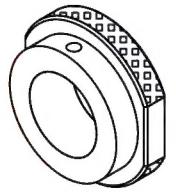
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .005 FRACTIONS ± 1/8
.XX ± .01 ANGLES ±.5°
.X ± .1 SURFACES = 125

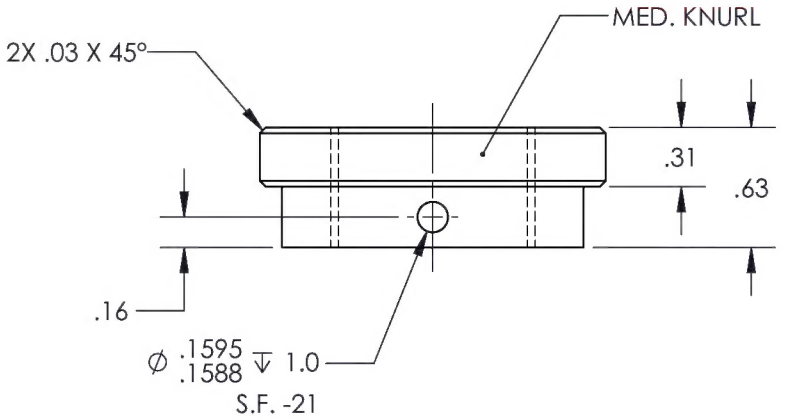
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

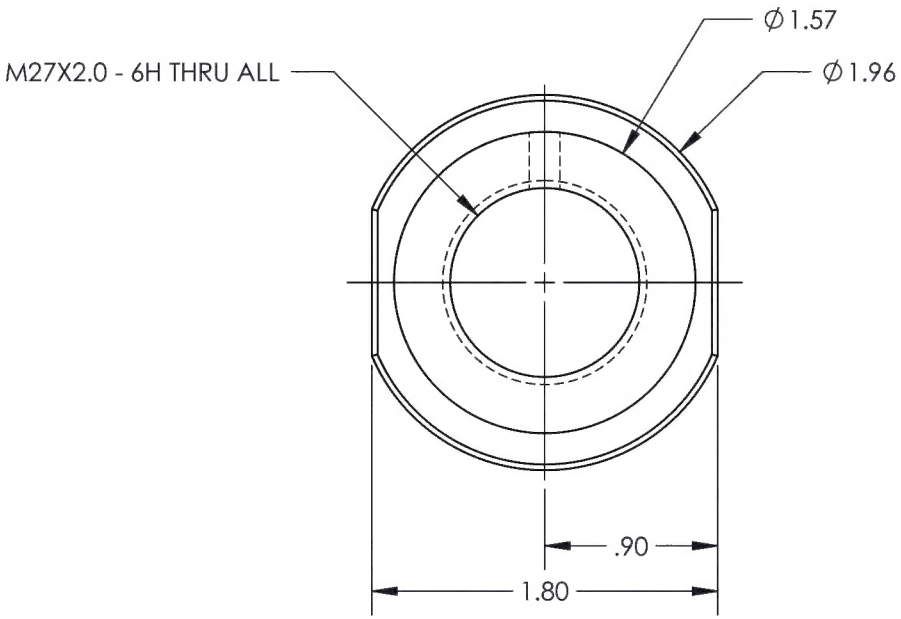
USED ON MODEL
EC145

REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED

SEE ATTACHED DEVIATION







(-9)

THUMB NUT WITH FLATS

DART AEROSPACE

TITLE	PULLER
DWG NO.	RBE105-14101W1-9
REV	1
MAT'L	4140/4142
HEAT TREAT	RC 35-40
FINISH	ZINC PLATE
SPEC	ASTM B633 TYPE I SC 2
DRAWN BY:	DUERFELDT
CHECKED:	MACKOVJAK
OPPS APPR:	ANDERSON
QA APPR:	LINDSAY
APPROVED:	GILBERT
SCALE	1:1
DATE	12/30/2015
SHEET	6 OF 11

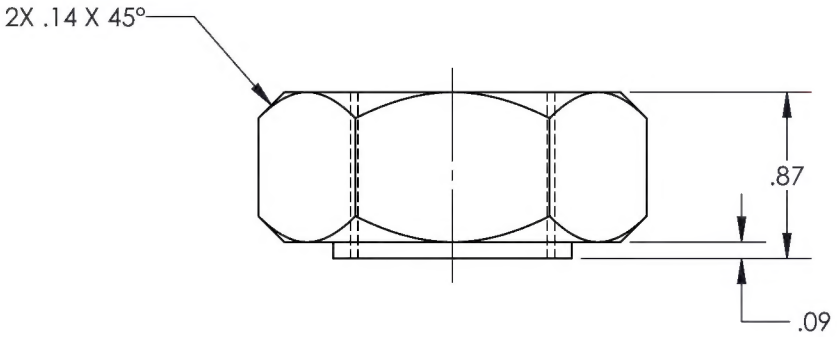
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .005 FRACTIONS ± 1/8
.XX ± .01 ANGLES ±.5°
.X ± .1 SURFACES = 125

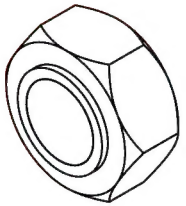
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

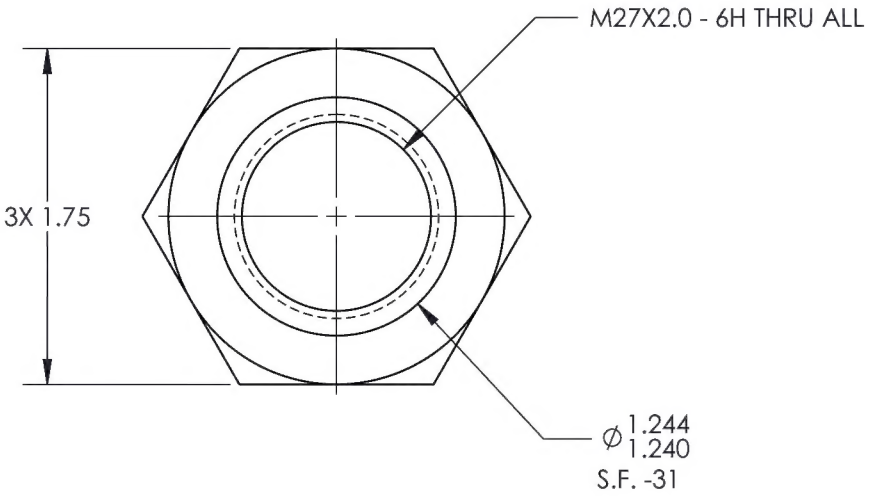
USED ON MODEL
EC145

REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED

SEE ATTACHED DEVIATION







(-11)

SPECIAL HEX NUT

DART AEROSPACE

TITLE: PULLER

DWG NO. RBE105-14101W1-11 REV 1

MAT'L	4140/4142
HEAT TREAT	RC 35-40
FINISH	ZINC PLATE
SPEC	ASTM B633 TYPE I SC 2
DRAWN BY:	DUERFELDT
CHECKED:	MACKOVJAK
OPPS APPR:	ANDERSON
QA APPR:	LINDSAY
APPROVED:	GILBERT

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .005 FRACTIONS ± 1/8
.XX ± .01 ANGLES ±.5°
.X ± .1 SURFACES = 125

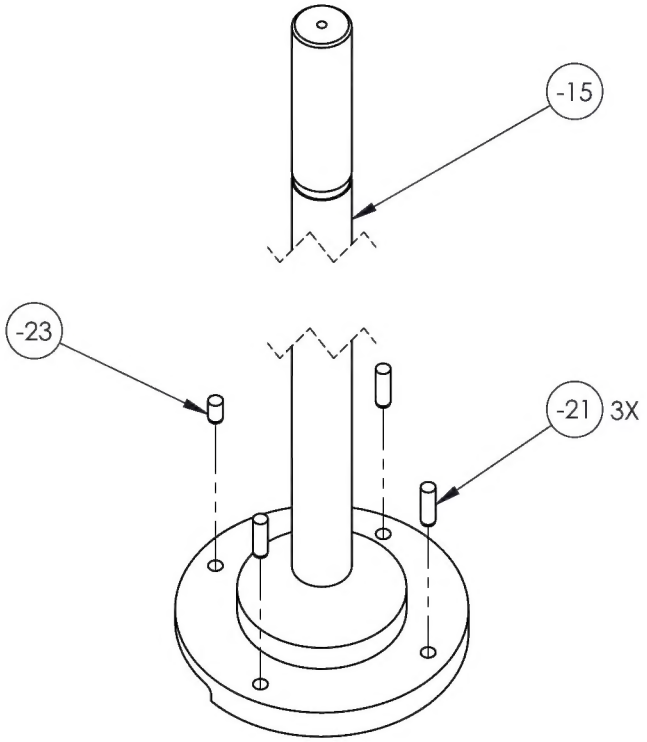
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

USED ON MODEL: EC145

SCALE 1:1 | DATE 12/30/2015 | SHEET 7 OF 11

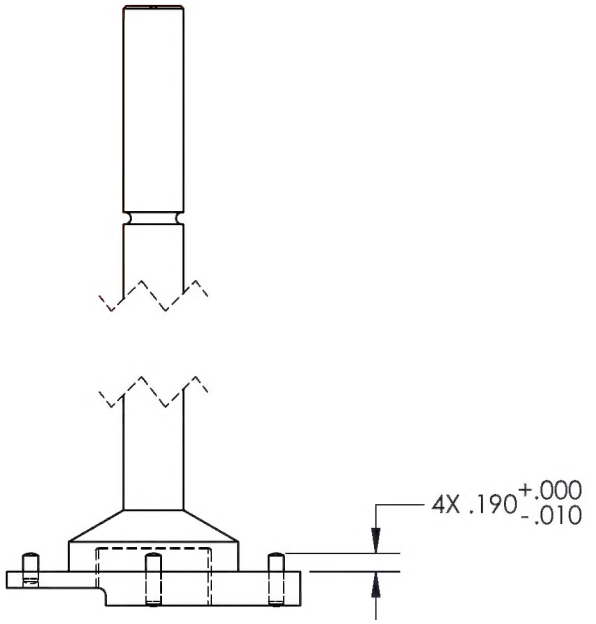
REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED

SEE ATTACHED DEVIATION



(-13)

BASE ROD ASSEMBLY



DART AEROSPACE

TITLE: EXTRACTOR

DWG NO.: RBE105-14101W1-13 REV: 1

MAT'L

HEAT TREAT

FINISH

SPEC

DRAWN BY:	DUERFELDT
CHECKED:	MACKOVJAK
OPPS APPR:	ANDERSON
QA APPR:	LINDSAY
APPROVED:	GILBERT

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .005 FRACTIONS ± 1/8
.XX ± .01 ANGLES ±.5°
.X ± .1 SURFACES = 125

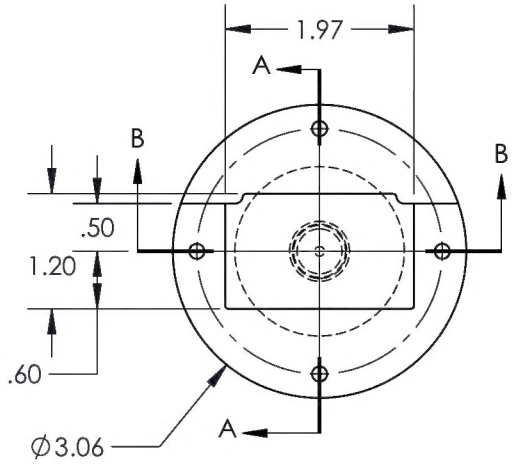
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

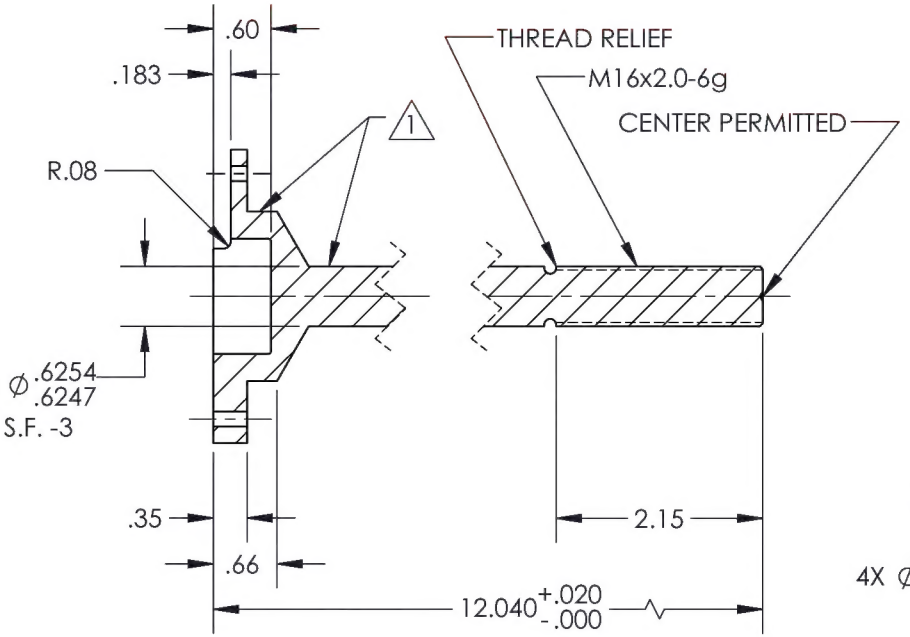
USED ON MODEL: EC145

SCALE: 1:2 DATE: 12/30/2015 SHEET 8 OF 11

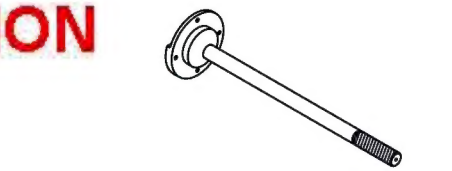
REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED

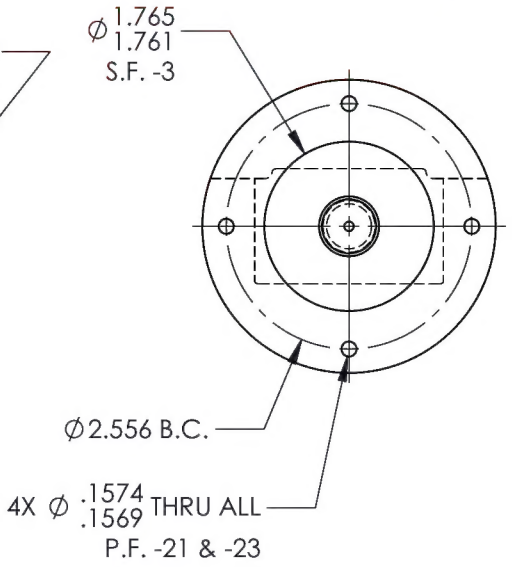
SEE ATTACHED DEVIATION

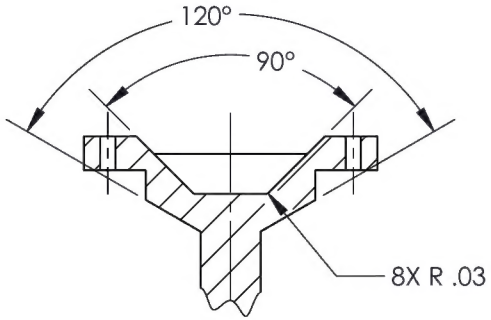




SECTION A-A







SECTION B-B

NOTE:

1. CUT TO +.05 GREATER THAN GIVEN DIMENSION BEFORE HEAT TREAT. GRIND AND FINSH TO GIVEN DIMENSION AFTER HEAT TREAT

DART AEROSPACE

TITLE	EXTRACTOR
DWG NO.	RBE105-14101W1-15
REV	1
MAT'L	4140/4142
HEAT TREAT	RC 40-46
FINISH	ZINC PLATE
SPEC	ASTM B633 TYPE I SC 2
DRAWN BY:	DUERFELDT
CHECKED:	MACKOVJAK
OPPS APPR:	ANDERSON
QA APPR:	LINDSAY
APPROVED:	GILBERT
SCALE	1:2
DATE	12/30/2015
SHEET	9 OF 11

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .005 FRACTIONS ± 1/8
.XX ± .01 ANGLES ±.5°
.X ± .1 SURFACES = 125

1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

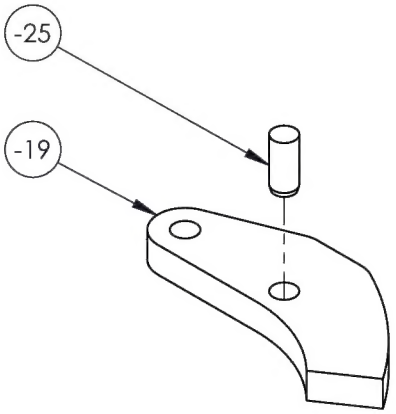
USED ON MODEL
EC145

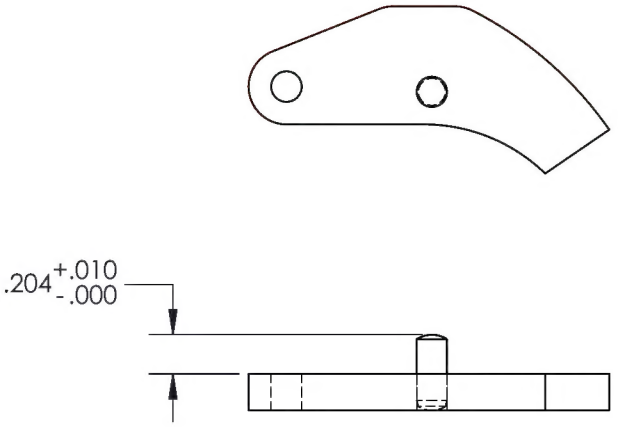
(-15)

BASE ROD

REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED

SEE ATTACHED DEVIATION





-17

SWING OUT ARM ASSEMBLY

DART AEROSPACE

TITLE	EXTRACTOR
DWG NO.	RBE105-14101W1-17
REV	1
MAT'L	
HEAT TREAT	
FINISH	
SPEC	
DRAWN BY:	DUERFELDT
CHECKED:	MACKOVJAK
OPPS APPR:	ANDERSON
QA APPR:	LINDSAY
APPROVED:	GILBERT
SCALE	1:1
DATE	12/30/2015
SHEET	10 OF 11

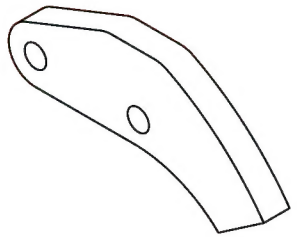
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .005 FRACTIONS ± 1/8
.XX ± .01 ANGLES ±.5°
.X ± .1 SURFACES = 125

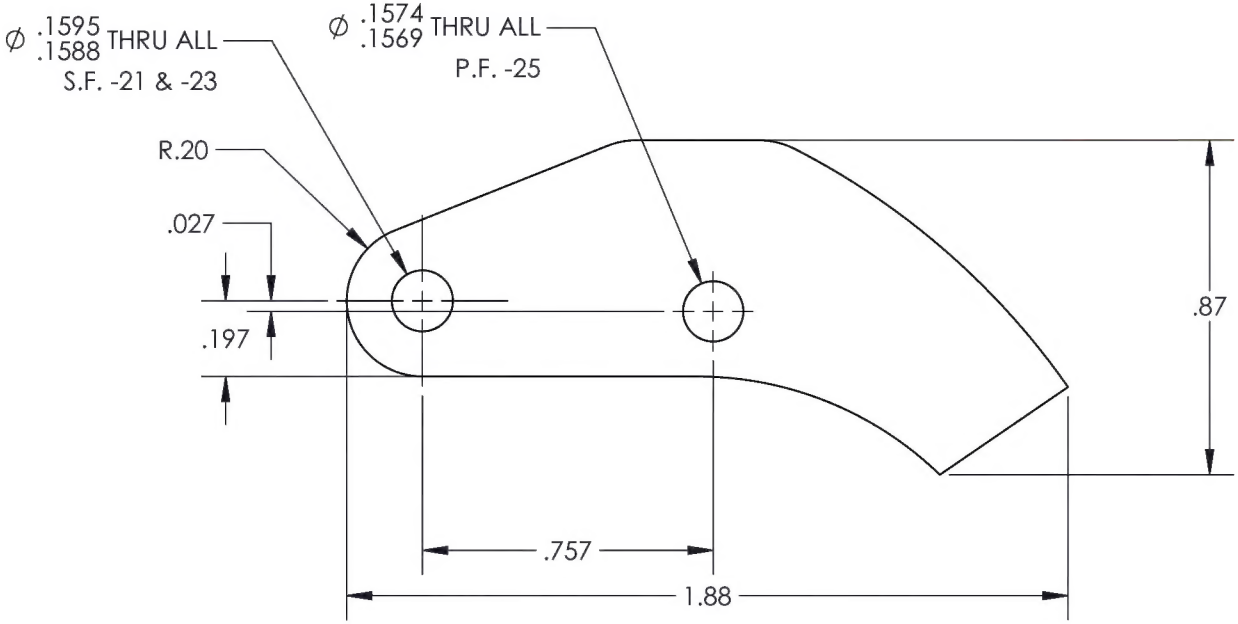
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

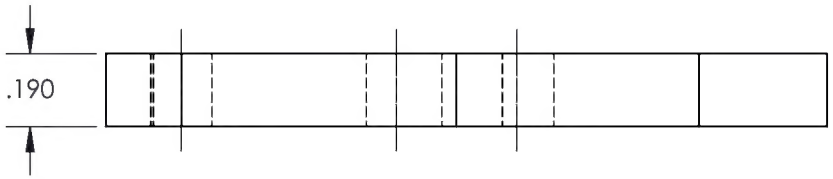
USED ON MODEL
EC145

REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED

SEE ATTACHED DEVIATION







(-19)

SWING OUT ARM

NOTE:
USE CAD DATA TO MANUFACTURE.

DART AEROSPACE

TITLE	PULLER
DWG NO.	RBE105-14101W1-19
REV	1
MAT'L	4140/4142
HEAT TREAT	RC 40-46
FINISH	ZINC PLATE
SPEC	ASTM B633 TYPE I SC 2
DRAWN BY:	DUERFELDT
CHECKED:	MACKOVJAK
OPPS APPR:	ANDERSON
QA APPR:	LINDSAY
APPROVED:	GILBERT
SCALE	2:1
DATE	12/30/2015
SHEET	11 OF 11

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .005 FRACTIONS ± 1/8
.XX ± .01 ANGLES ±.5°
.X ± .1 SURFACES = 125

1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

USED ON MODEL
EC145

Entered: _____ Date: _____

DART AEROSPACE

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No.

Route update only ☐

Job: _____

Part No. RBE105-14101W1 REV 1

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐

DEPARTMENT/PROCESS

Skid-tube ☐ Cross tube ☐ Eng. (Non-AW) ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Water Jet ☐
Large Fab ☐ Finishing ☐ Rec/Store/Packaging ☐ Supplier ☐
Quality ☐

Date : 2019-05-23

Sequence #:

QTY Affected :

MRB (QSI042)

Description Work Order Deviation

ITEMS -3 AND -15 CALLED FOR ZINC PLATE TYPE 2. CAN CAUSE FIT ISSUES.

Disposition

- ITEMS -3 AND -15 MUST BE BLACK OXIDE
- THIS DEVIATION IS ACCEPTABLE TO USE AS IS
- FIT, FORMS AND FUNCTIONS WILL BE AS ORIGINALY INTENDED

Completed By

Lead hand / Supervisor

QC / QA Coordinator

Root Cause

Operator ☐
Manufacturing Process ☐
Equip/Tooling ☐
Handling/Presservation ☐
Material ☐
Product Improvement ☒
Process Improvement ☐
Human Factors ☐

FAULT CATEGORY

☐ Pressure/Forced ☐ Contamination ☐ Power Loss/Surge ☐ Positioned Wrong
☐ Bending ☐ Misaligned/off center ☐ Folio/Program ☐ Outside Tolerance
☐ Crushing ☐ BOM/Route ☐ Grain Direction ☐ Drawing
☐ Cracks ☐ Broken/Damage/Defect ☐ Weld ☒ Finish
☐ Crimp/Kink/Ripple/Wave/Twist ☐ Incomplete/Unclear Instructions ☐ Wrong Stock Pulled ☐ Part Lost/Missing
☐ Marks/Chatter ☐ Drill Holes ☐ Out of Sequence ☐ Misread
☐ Mislabeled ☐ Fit/Function ☐ Off-set/Set-up

Other/Details: